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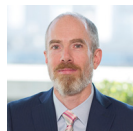
Metaverse & the Disruption of the Internet

BARINGS INSIGHTS

The sci-fi inspired vision behind an idealized metaverse is clear—but the road to get there is uncertain. As the industry tries to adapt existing business models to fit this new (virtual) reality, which companies will be the winners?



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While the term “metaverse” can be traced back to Neal Stephenson’s 1992 sci-fi book, “Snow Crash,” the ideas behind what will be the next evolution in the internet are finding their moment today—driven by the convergence of technology and societal trends that are demanding wholesale changes in how this reality works, and who controls it.

“The metaverse is a massively scaled and interoperable network of real-time rendered 3D virtual worlds, which can be experienced synchronously and persistently by an effectively unlimited number of users, and with continuity of data—such as identity, history, entitlements, objects, communications and payments.”¹

As it stands today, the internet already meets most of the requirements for classification as a metaverse. But the history of the internet’s evolution, and its tendency toward centralized market power, is pointing to a path away from the idealized definition of a metaverse. The internet’s original purpose was to enable file sharing between academics. In other words, there were no explicit commercial drivers behind its growth. The internet and the infrastructure created to enable it ended up setting the conditions for the winner-takes-most digital advertising and social media power centers that are Facebook, Google, Amazon, Alibaba and Tencent. Crucially, this centralization of power makes it harder to meet the metaverse’s requirements for “continuity of data” and “unlimited numbers of users” due to inter-operability challenges.

The hand-wringing and investor angst that followed the Chinese authorities’ insistence that the walled gardens of Tencent and Alibaba open their ecosystems to allow links into their competitors’ domains was evidence enough of how valuable the centralized nature of each of the aforementioned platforms actually is. The metaverse, inasmuch as it requires inter-operability and continuity of data and digital assets across environments, is a major threat to the status quo.

1. Source: MatthewBall.vc. As of June 29, 2021.

State of Play

The term “metaverse” is now being bandied around in a similar way to the use of “.com” in the late 1990s. However, the important difference is that there is a very healthy digital economy already in place. The challenge for investors is to work out the companies best placed to capitalize on the business models enabled in a metaverse, and avoid those that will lose out.

Video gaming is the obvious starting point as we already have examples of services that tick many of the boxes in the metaverse definition. For instance, Epic’s Fortnite has enjoyed massive success built on large numbers of gamers competing in a single 3D environment. Epic augmented Fortnite with other non-gaming events held within the Fortnite environment, such as the Rift Tour featuring Ariana Grande². However, Fortnite fails on the inter-operability test. While Fortnite can be played across different gaming platforms like Xbox and PC, you can’t bring your Fortnite skill points and weapons into a competing Player Unknown Battleground (PUBG) game.

Roblox is closer to the definition to the extent that game developers can build separate games within its environment, subject to Roblox’s restrictions and the digital tools they make available, which in turn limits the quality of the graphics in each game. The Robux currency purchased by users can be spent across all the games within the Roblox environment. However, you can’t take your Robux into Fortnite and buy digital skins for your Fortnite avatar.

Commercial interests of incumbent internet platforms and app developers are governed by the Innovator’s Dilemma problem,³ in that success in a centralized, walled-garden environment makes it much harder to make the decision to disrupt those income streams in favor of a business model based on inter-operability. Making it easier for customers and suppliers (such as advertisers) to leave and move their attention to other competing services is a huge risk to take

with an uncertain payoff in the longer term. For example, the barriers to user-entry onto Facebook are extremely low. However, the barriers to exit are very high, due in large part to the friction of users moving themselves and all of their Facebook connections and groups away to another service⁴.

Very large, centralized ecosystems are the most likely end-state in digital markets where network effects are powerful and marginal costs of supply are essentially zero. However, the definition of a metaverse speaks to a decentralized structure. The need to support millions of users concurrently, regardless of location, creates technical issues for latency that will be solved using Edge Computing networks, and distributed blockchain ledgers that record digital asset ownership. Such a structure may well undermine the market power of the incumbent platforms.

Meta née Facebook

However, those following the recent press releases relating to metaverses will point out that Facebook just changed its name to “Meta Platforms,” and announced that they will split out the financial performance of their efforts to build a metaverse-based business. Context is everything, and a number of factors made this strategy inevitable despite the risks noted above—and very much aside from the sense of diverting attention away from recent whistleblowing and regulatory controversies facing the company.

Until now, Mark Zuckerberg’s stated views on the opportunity for virtual reality (VR) had failed to strike a chord with fans of Facebook, even with the purchase of Oculus VR for \$2 billion in 2014. The 2021 explosion of interest in metaverses and the emergence of successful companies such as Roblox does suggest that Mark Zuckerberg was simply a few years early, and the third quarter announcement of the \$10 billion of spending on Facebook Reality Labs was coming regardless. Cynically, if regulators won’t let you acquire more pieces of the metaverse puzzle, you’re going to have to build it—and we would expect this level of spend to only increase in the coming years.

2. <https://www.epicgames.com/fortnite/en-US/news/fortnite-presents-the-rift-tour-featuring-ariana-grande>

3. https://en.wikipedia.org/wiki/The_Innovator%27s_Dilemma

4. Europe’s GDPR regulations actually block the portability of address books in order to protect privacy, thus cementing the market power within Europe of Facebook in particular.

The other contributing factor is the state of the smartphone market. Apple's move to make tracking of their users' online activities by third parties an opt-in process has meant that they have improved their own competitiveness at the cost of Facebook and all other third party platforms, independent application developers (especially game developers) and advertisers that need these tools to reach new customers. Facebook had to reconsider their strategy as their access to users within Apple's iOS environment becomes increasingly impaired.

The metaverse, as defined in this paper, will be required to become far more independent of the hardware platforms that users adopt to access it—specifically smartphones, given how they dominate our online time-spent, but also Windows PCs, Sony Playstations, Microsoft HoloLens glasses and so on. This ties back to their efforts with the Oculus VR headsets, which we would expect Facebook to try to make interoperable with as many operating systems as possible. Contrary to some market rhetoric, it isn't in Facebook's interest to control the meta environment, and it has a history of working in open source hardware and software environments. Without a doubt, we believe Meta née Facebook is taking a significant risk, and one that could arguably only be made by a company whose founder has such tight control of the voting shares in the company—and a starting point of 2.91 billion monthly active users.

The B2B Metaverse Opportunity

The economics and rules of behavior in virtual ecosystems are different in the business-to-business world. Working with multiple suppliers and customers and sharing commercially sensitive data is much more commonplace with established rules and behaviors enshrined in best practices, if not commercial law. That means the first stage in the evolution toward a vibrant business-metaverse is to digitize the data and processes required for business collaboration and commerce, something a confluence of technological developments already being adopted today is primed to deliver.

Security and trust are essential to the sustainability of any digital environment and its economy. New software businesses such as Okta (identity security) and data warehouse technologies such as Snowflake have grown rapidly to fix many of the problems relating to safely connecting verified users and better organizing data sets to make them useful. Smart contracts with digital signatures that enable the automation of decision-making and the disintermediation of human middlemen to verify contracts and transactions are becoming standard in many use cases.

Digital cryptocurrencies and Stablecoins built on blockchain ledgers are rising to meet the need for trusted currencies that can be used across multiple digital ecosystems. The need to be able to carry digital assets from one digital environment into another will be significantly eased with standards in place for how to value these assets, and, if need be, convert them back to fiat currency. The explosive rise in popularity of digital Non-Fungible Tokens (NFTs) is an important trend that will help establish rules around use and trading of the underlying digital assets and the remuneration of token owners for reproduction of those assets by other parties.

Microsoft's 2021 launch of their Mesh mixed-reality platform for connecting professional users working on projects from any location using mixed-reality applications on any device is one early manifestation of a foundational technology that could become an important piece of the infrastructure for the metaverse dream to become a reality. The challenge for Microsoft is similar to Facebook's in that the metaverse demands inter-operability—and being tied to the Windows operating system would dramatically limit Microsoft's opportunity and likelihood of success. Fortunately, CEO Satya Nadella has actively embraced a strategy across Microsoft that de-emphasizes Windows and seeks instead to partner with software developers across all ecosystems and therefore remove barriers to adoption for their customers.

The benefits of this strategy are clear when you consider the widespread adoption of Microsoft Teams. Their collaboration tool is becoming its own "operating system for work" due to both the incumbent position of Microsoft's Office suite, and crucially Teams' ability to integrate with third party applications and become an integral part of the customer's workflow. The recent announcement that Microsoft Teams will be able to integrate with Meta's Workplace platform is a case in point and illustrates that Microsoft has a clear vision on how to evolve their digital ecosystem toward becoming a key part of any large and vibrant metaverse.

The Opportunity

The definition of a metaverse runs pretty close to the internet we see today, but with some crucial differences around inter-operability and the scale of users interacting in a single space. While the latter hurdle is largely a technical problem,⁵ the former is much more intractable and runs counter to the natural tendency toward centralized ecosystems in a digital world where winner-takes-most.

The Innovators' Dilemma looms large for some of the winners in today's internet market structure. Inter-operability, consistency and trusted measures of value and verification of identity, will threaten the walled gardens that dominate today. In our view, this should provide opportunities for new decentralized platforms for innovation where the developers are able to retain a fair share of the rewards for their labor, without paying the platform taxes levied today by the gatekeepers to the mobile ecosystems.

The companies best placed to leverage these changes are those with the business model imperatives that create more opportunity than they will have to give up. Meta née Facebook has clearly stated its intent to contribute to the building of a more open digital infrastructure, which they believe they can play a significant part in, and still offer third parties that would build applications alongside a chance to prosper.

5. The component parts required for the infrastructure to enable the metaverse are different from today's internet and will be discussed in a future paper.

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The more clearly defined opportunities in the business world play more easily to Microsoft’s strategy put in place by CEO Satya Nadella. The continuation of the strategy to abstract their applications away from the Windows operating system to enable proliferation across all competing ecosystems has forced a much more open and partnership-based approach to third party application developers in order to become even more relevant in the enterprise. Their failure to compete with Apple and Google in mobile was a hard-taught lesson that is now paying dividends and positions them well for the challenges of the metaverse.

Metaverse discussions typically end along the lines of “yes, but what is it?” The sci-fi inspired vision behind an idealized metaverse is clear—but the road to get there is far more uncertain and will be littered with both winners and losers as the industry grapples with new economic imperatives and tries to adapt existing business models to fit this new (virtual) reality. What is clear is that there are some very well-resourced and deep-pocketed investors and technology companies looking to back the efforts to create metaverses. To us, this points to opportunities today for the foundational infrastructure components, namely semiconductors, edge-focused cloud computing and cyber security companies, and of course the app development platforms geared into building open and interoperable metaverse apps.

The excitement surrounding the metaverse though is not merely an evolution of the internet, but the promise of an unleashing of economic activity that will be unfettered by physical constraints. The metaverse is the embodiment of the infrastructure that will provide the tools for innovation. It will also provide the rules and structures required for investors to confidently deploy capital behind the next wave of digital entrepreneurs—and ultimately, to create digital economies that outshine the real world economies they disrupt.

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